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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,626	08/07/2001	Mehdi Bonakdar	C 2290 COGG	2081

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COGNIS CORPORATION
PATENT DEPARTMENT
300 BROOKSIDE AVENUE
AMBLER, PA 19002

EXAMINER

QAZI, SABIHA NAIM

ART UNIT	PAPER NUMBER
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1616

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/923,626	Applicant(s) BONAKDAR ET AL.	
	Examiner Sabiha Qazi	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-19 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Final Office Action

Claims 1-19 are pending. No claim is allowed.

In order to advance the prosecution, the Examiner called Attorney Aaron Ettelman to discuss the term "mild" in claim 1, amongst other issues. See Examiner-Initiated Interview Summary.

Response to Arguments

The Double Patenting Rejection

The double patenting rejection has been withdrawn, as arguments are found persuasive.

The 35 USC § 103 Rejection

The arguments have been fully considered, but are not found persuasive. Therefore, this rejection is maintained over HUNT et al.

The two issues found between HUNT et al and the instant invention are:

- The time
- The temperature

HUNT et al teaches a process at temperatures of 150 degrees C to 240 degrees C for periods of about 1 to 3 hours under pressure.

The instant invention claims the same process at temperatures of 90 degrees C to 140 degrees C for periods of about 4 to 10 hours under pressure.

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The Examiner believes it would be obvious to one skilled in the art at the time of invention to prepare the process as claimed. **Wouldn't one be drawn to the exact same outcome if one was to lower the temperature and extend the time under the same pressure of a process?**

The Applicants argue that they have found that where the initial transesterification is conducted under "mild" conditions, the process can be conducted so as to obtain highly concentrated sterols with less energy consumption. (*See* Remarks filed on 12/29/2004; page 4 of 7)

This is not enough. The Examiner respectfully requests them to present a side-by-side comparison with HUNT et al's process showing the criticality of the Applicants' invention.

The "mild" conditions claimed in claim 1 must be specified either in the claim, or the Specification. The Examiner has looked in the Specification as cited by the Applicants (*See* Specification; p.4, lines 8-17), but has not found it to be a reasonable definition.

"The reaction is preferably carried out over a period of 5 to 20 minutes and more particularly 8 to 15 minutes at a temperature of 115 to 145 degrees Celsius and more particularly at a temperature of 120 to 130 degrees Celsius. A pressure of 2 to 10 bar is spontaneously established at

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these temperatures. Under these conditions, which correspond to a low-temperature transesterification a catalyst has to be added. Any transesterification catalyst may be used as the catalyst. 30% methanolic sodium methylate solution is preferred and is used in a quantity of preferably 0.5 to 1.8% by weight and more preferably 1.0 to 1.5% by weight, based on the transesterified oil distillation residue.”

The term “mild” is not specific (in claim 1). The definition, as shown above from the Applicants’ citation of the Specification (*See* Remarks filed on 12/29/2004; Page 5), cites the word “preferably”, is not specific. The definition of “mild” must be a certain temperature, pressure, and time. The word “preferably” shows the preference of the Applicants’ invention; the word does not limit the claims. Having specifics would make it a valid definition.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5703252 (herein referred to as “HUNT ‘252”) and US 5670669 (herein referred to as “HUNT ‘669”).

HUNT ‘252 teaches a process for the recovery of tocopherols from a starting material containing fatty and sterol compounds, such as distillates of vegetable oils and

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fats (see the entire the entire document, especially col. 3, lines 46-67; col. 4, lines 23-58; col. 5, lines 20-67; examples and claims). The reference teaches:

- (a) esterifying the free fatty acids preferably with a lower alcohol,
- (b) transesterifying the fatty acid glyceride esters present by mixing said tocopherol mixture with a lower alcohol in the presence of a zinc catalyst,
- (c) removal of the excess lower alcohol, zinc catalyst, fatty acid alkyl ester and glycerol and,
- (d) for complete conversion of sterol esters in the tocopherol mixture to free sterols, reacting said tocopherol mixture obtained with a lower alcohol in the presence of an alkoxide catalyst in order to produce a tocopherol mixture containing free sterols and fatty acid alkyl esters (see col. 3, line 47 to col. 4, line 67).

Furthermore, HUNT '252 teaches the transesterification of sterol esters is preferably conducted at a temperature between about 1500°C and about 2400°C and in reaction times of 10 minutes or more, such as 1 to about 3 hours under pressure (see col. 6, lines 24-44).

HUNT '669 teaches a similar process for the recovery of tocopherols from a mixture comprising of fatty acids, sterols and tocopherols (see the entire document, especially col. 3, lines 12-64; col. 4, lines 1-43, col. 6, lines 50-67; col. 7, lines 1-51; examples, tables, and claims). The reference teaches (a) esterification of the free fatty acids present in the mixture with lower or higher alcohols (see col. 3, lines 19-22 and col. 4, lines 1-5), (b) transesterifying fatty acid esters present in the mixture with a lower alcohol in the presence of a basic catalyst such as potassium hydroxide and sodium methoxide (see col. 3, lines 23-25 and col. 9, lines 9-28) and (c) removal of excess lower

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alcohol, basic catalyst, fatty acid alkyl ester and glycerol (see col. 3, lines 26-35 and col. 6, line 67 - col. 7, line 13).

One skilled in the art would have been motivated to produce sterols in view of the teachings of the prior art cited above. The prior art teaches the recovery of sterols from starting materials containing fatty and sterol compounds such as vegetable oils by a process comprising the removal of the free fatty acids by esterification; transesterification of the fatty acid glyceride esters in the presence of a lower alcohol and basic catalyst, removal of the excess alcohol, basic catalyst, fatty acid alkyl ester and glycerol, and conversion of the sterol esters in the product obtained by transesterification would be obvious to one skilled in the art at the time of the invention. Wouldn't one be drawn to the exact same outcome if one was to lower the temperature and extend the time under the same pressure of a process?

In absence of any criticality and/or unexpected results, presently claimed invention is considered obvious over the prior art cited above.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill might reasonably infer from the teachings. *In re opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA 1976). A reference is not limited to working examples. *In re Fracalossi* 215 USPQ 569 (CCPA 1982).

Accordingly, the burden of proof is upon applicants to show that instantly claimed subject matter is different and unobvious over those taught by prior art. See *In re Brown*, 173 USPQ 685, 688; *In re Best*, 195 USPQ 430 and *In re Marosi*, 218 USPQ 289, 293.

Normally, change in temperature, concentration, or both, is not a patentable

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modification; however, such changes may impart patentability to a process if the ranges claimed produce a new and unexpected result which is different in kind and not merely in degree from results of prior art; such ranges are termed "critical" ranges, and applicant has burden of proving such criticality; even though applicant's modification results in great improvement and utility over prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art; more particularly, where the general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimum or workable ranges by routine experimentation. *In re Aller et al.* 105 USPQ 233.

It is well established that merely selecting proportions and ranges is not patentable absent a showing of criticality. *In re Becket*, 33 U.S.P.Q. 33 (C.C.P.A. 1937). *In re Russell*, 439 F.2d 1228, 169 U.S.P.Q. 426 (C.C.P.A. 1971).

It is a general rule that merely discovering and claiming a new benefit of an *old* process cannot render the process again patentable. Nor can patentability be found in differences in ranges recited in the claims. When the difference between the claimed invention and the prior art is some range or other variable within the claims, the applicant must show that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 16 USPQ2d 1934.

In the light of the forgoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the instant claims would have been obvious within the meaning of 35 U.S.C. 103(a).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sabiha Qazi whose telephone number is (571) 272-0622. The examiner can normally be reached on any business day.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz can be reached on (571) 272-0887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SABIHA QAZI, PH.D
PRIMARY EXAMINER

Thursday, March 10, 2005